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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,014	04/07/2004	Matthew J. Banet	A-0003	3013

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EXAMINER

MALLARI, PATRICIA C

ART UNIT	PAPER NUMBER
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3735

DATE MAILED: 05/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,014

Applicant(s)

BANET, MATTHEW J.

Examiner

Patricia C. Mallari

Art Unit

3735

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,7-11,14,18-20 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,7-11,14,18-20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/20/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/24/06 has been entered.

Claim Objections

Claim 4 is objected to because of the following informalities:

On line 2 of claim 4, "to the body-" should be replaced with "to a body-".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1, 4, 5, and 23 are rejected under 35 U.S.C. 102(b) as being unpatentable over US Patent No. 5,316,008 to Suga et al. Suga teaches a hand-held device for monitoring blood pressure comprising a removable hand-held component configured to be held proximal to the patient's skin (figs. 1 & 8; col. 9, lines 20-25 of Suga). An optical module operating in a reflective mode is mounted on the hand-held component and

comprises an optical source component 105 configured to generate optical radiation and a first optical sensor 106 configured to detect reflected radiation from the patient and to generate a first set of information when the hand-held component is held proximal to the skin (fig. 8; col. 4, lines 35-54; col. 9, lines 25-30 of Suga). An electrical sensor is mounted on the hand-held component and comprises an electrode pair 108, 110 configured to generate a second set of information when the hand-held component is held proximal to the patient's skin (figs. 8 & 10; col. 9, lines 30-33; col. 10, lines 1-14 of Suga). A processing module 111 is mounted in the hand-held component, is configured to receive the first and second sets of information and comprises a processor 114 that calculates a time difference between components of the first and second sets of information and compares the time difference to a mathematical model to calculate a blood pressure value (figs. 8, 10, 12, & 13; col. 10, lines 10-61; col. 20, line 36-col. 21, line 24; col. 21, lines 51-61 of Suga).

Regarding claim 4, the electrical sensor is configured to generate a time-dependent electrical waveform in response to the body-generated electrical signal (col. 4, lines 27-35; col. 11, lines 1-4 of Suga).

Regarding claim 5, the hand-held component further comprises an analog-to-digital converter 43, 53 connected to the processing module (figs. 5a& b, 12; col. 5, line 41-col. 6, line 35 of Suga).

Regarding claim 22, the hand-held component/watch may deliver pressure to a patient's skin when watch strap 109 is applied tightly around the patient's wrist (fig. 8; col. 9, lines 26-27 of Suga).

Regarding claim 23, the description of apparatus, as given above, inherently teaches the method of using such an apparatus.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suga, as applied to claims 1, 4, 5, and 23 above and further in view of US Patent No. 6,616,613 to Goodman. Suga teaches the optical source component comprising a first optical source and fails to address the wavelength of the emitted radiation. However, Goodman teaches a blood pressure measuring device wherein a PPG sensor 12 may use either one or two optical sources, and wherein, when two sources are used, the first generates visible radiation and the second generates infrared radiation (col. 9, line 57- col. 10, line 24; col. 32, lines 22-67 of Goodman). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a first source generating visible radiation and a second source generating infrared radiation as the optical source component of Suga, since Goodman teaches the two sources or a single source to be functionally equivalent means of providing an optical source component in a photoplethysmographic (PPG) sensor.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suga in view of Goodman, as applied to claim 7 above. The optical sensor of Suga, as modified, is a phototransistor rather than a photodiode. However, Goodman teaches a PPG sensor using a photodiode as the optical sensor (col. 9, lines 57-62 of Goodman). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a photodiode in place of the phototransistor of Suga, as modified by Goodman, since it would merely have been the substitution of one known optical sensor for another.

With further regard to claim 9, the photodiode is configured to generate a photocurrent after detecting radiation generated by the first and second optical source (col. 10, lines 62-64 of Goodman).

With further regard to claim 10, the hand-held component further comprises an analog-to-digital converter connected to the processing module and configured to receive and process the photocurrent (col. 11, line 66-col. 12, line ; col. 12, lines 15-19 of Goodman).

With further regard to claim 11, the processing module further comprises firmware that processes the photocurrent to generate a time-dependent optical waveform (col. 5, line 61-col. 6, line 4 of Suga; col. 1, line 1-col. 12, line 21 of Goodman).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suga, as applied to claims 1, 4, 5, and 23 above and further in view of US Patent No. 6,616,613

to Goodman. Suga teaches computer-readable firmware that processes the first set of information to determine heart rate (col. 12, lines 9-11 and 21-23; col. 13, lines 17-21; col. 21, lines 14-24 of Suga) but lacks computer-readable firmware that processes the first set of information to additionally determine pulse oximetry. However, Goodman teaches a hand-held blood pressure measuring device that also includes means for measuring a patient's blood oxygen saturation comprising computer-readable firmware that processes the first set of information to determine heart rate (col. 32, lines 22-59 of Goodman). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine Goodman with Suga in order to provide critical information to a user since such blood oxygen saturation is shown to be a parameter of critical importance in many medical conditions (col. 32, lines 30-36 of Goodman).

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suga, as applied to claims 1, 4, 5, and 23 and further in view of US Patent No. 5,054,094 to Lazzaro et al. Suga is silent as to the nature of the interface between the processor (CPU 14) and all other components. However, Lazzaro teaches a blood pressure measuring device wherein the interface 336 between the processor and devices providing input to the processor is a serial interface (figs. 2 & 5; col. 22, lines 21-41 of Lazzaro). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use a serial interface as the interface between the processor and all devices external to the processor providing input to the processor in the device of Suga, since Suga teaches processor receiving input from various devices

and Lazzaro teaches a serial interface as an appropriate interface between devices providing input to a processor and a processor.

Regarding claim 19 the serial interface is configured to send information to an external device (fig. 5 of Lazzaro).

Regarding claim 20, although Lazzaro does not explicitly recite acceptance of calibration information, it is clear that the serial interface is configured to or capable of accept calibration information as it appears to be capable of accepting any type of appropriate data signal for input to the microprocessor (fig. 5; col. 22, lines 21-41 of Lazzaro)

Claims 24 and 26 are rejected under 35 U.S. C. 103(a) as being unpatentable over Suga, as applied to claims 1, 4, 5, and 23 above, and further in view of US Patent No. 6,443,906 to Ting et al. Suga lacks wirelessly transmitting the blood pressure value to an external receiver. However, Ting teaches a method of using a hand-held blood pressure measuring device wherein the blood pressure information collected by the hand-held device is wirelessly transmitted to an external receiver (col. 9, lines 25-44 of Ting). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the method of Ting with that of Suga in order to allow one to see the trend and determine the danger-point of the change in blood pressure (col. 9, lines 25-29 of Ting).

Regarding claim 26, the blood pressure value is transmitted to a central computer system, where a personal computer used to download information from the

blood pressure measuring device to download data and analyze trends in the data appears to be a central computer system (col. 9, lines 25-44 of Ting).

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suga in view of Ting, as applied to claims 24 and 26 above, and further in view of Goodman. Suga, as modified, teaches transmitting the blood pressure value to a computer system but is silent as to whether the system is an internet-accessible computer system. However, Goodman teaches downloading blood pressure value information from a measuring device 14 to a computer system 16, wherein the computer system is an Internet accessible computer system (col. 13, lines 20-58; col. 33, line 50-col. 34, line 64 of Goodman). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use an Internet accessible computer system as the computer system of Suga, in view of Ting, since Suga, as modified, teaches downloading blood pressure information to a computer, and Goodman teaches an Internet-accessible computer as an appropriate such computer for downloading blood pressure information from a blood pressure measuring device.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia C. Mallari whose telephone number is (571)

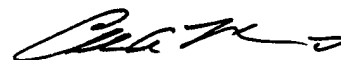
Art Unit: 3735

272-4729. The examiner can normally be reached on Monday-Friday 10:00 am-6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor, II can be reached on (571) 272-4730. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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